

## Claims

What is claimed is:

- 1        1. An apparatus, comprising:  
2            a unitary, substantially uniformly distributed transfer material forming a  
3        mesh; and  
4            a carrier material coupled to the unitary, substantially uniformly distributed  
5        transfer material.
- 1        2. The apparatus of claim 1, wherein the unitary, substantially uniformly  
2            distributed transfer material further comprises at least one of a component  
3            transfer material including bismuth, copper, gold, indium, zinc, antimony,  
4            magnesium, lead, silver, tin, and alloys thereof.
- 1        3. The apparatus of claim 1, wherein the carrier material further comprises at  
2            least one of a component carrier material including a polymer, an elastomer,  
3            a hardener, a catalyst, a reactive diluent, an adhesion promoter, a surfactant,  
4            a deforming agent, a fluxing agent, a toughening agent, a coupling agent, an  
5            epoxy, an ester, a siloxane, a polyamide, a silicone, a rubber, and a wetting  
6            agent.
- 1        4. The apparatus of claim 1, wherein a plurality of elements included in the  
2            unitary, substantially uniformly distributed transfer material are distributed  
3            on a grid pattern.
- 1        5. The apparatus of claim 1, wherein the unitary, substantially uniformly  
2            distributed transfer material further comprises:  
3            a plurality of substantially similar geometric objects.

- 1 6. The apparatus of claim 5, wherein the plurality of substantially similar  
2 geometric objects are arranged in a substantially repeating pattern.
- 1 7. The apparatus of claim 5, wherein the plurality of substantially similar  
2 geometric objects includes a plurality of regular geometric objects.
- 1 8. The apparatus of claim 5, wherein the plurality of substantially similar  
2 geometric objects includes a plurality of irregular geometric objects.
- 1 9. The apparatus of claim 5, wherein at least one of a height, a shape, and a  
2 spacing of the plurality of substantially similar geometric objects is selected  
3 based on a desired volume of the unitary, substantially uniformly distributed  
4 transfer material.
- 1 10. The apparatus of claim 5, wherein the unitary, substantially uniformly  
2 distributed transfer material comprises a plurality of connecting elements to  
3 couple the plurality of substantially similar geometric objects to each other.
- 1 11. The apparatus of claim 10, wherein the plurality of connecting elements are  
2 arranged in a substantially repeating pattern.
- 1 12. An apparatus, comprising:  
2 a carrier material; and  
3 a solderable transfer material at least partially embedded within the carrier  
4 material and arranged in a substantially uniform fashion.
- 1 13. The apparatus of claim 12, wherein the solderable transfer material further  
2 comprises at least one of a component transfer material including bismuth,  
3 copper, gold, indium, zinc, antimony, magnesium, lead, silver, tin, and  
4 alloys thereof.

1       14. The apparatus of claim 12, wherein the solderable transfer material further  
2       comprises:  
3       a plurality of substantially similar geometric objects distributed on a grid  
4       pattern.

1       15. The apparatus of claim 14, wherein the plurality of substantially similar  
2       geometric objects includes a plurality of regular geometric objects.

1       16. The apparatus of claim 14, further comprising:  
2       a plurality of connecting elements to couple the plurality of substantially  
3       similar geometric objects to each other.

1       17. A system, comprising:  
2       a wireless transceiver;  
3       a die including a circuit coupled to the wireless transceiver; and  
4       a unitary, substantially uniformly distributed transfer material forming a  
5       mesh and adjacent the die and coupled to a carrier material.

1       18. The system of claim 17, wherein a plurality of elements included in the  
2       unitary, substantially uniformly distributed transfer material are distributed  
3       in a substantially repeating pattern.

1       19. The system of claim 18, further comprising:  
2       a plurality of connecting elements to couple the plurality of elements  
3       included in the unitary, substantially uniformly distributed transfer material to  
4       each other.

1       20. The system of claim 18, wherein the substantially repeating pattern  
2       comprises a parallel pattern.

- 1        21. The system of claim 18, wherein the substantially repeating pattern  
2                comprises a grid pattern.
- 1        22. The system of claim 17, wherein the unitary, substantially uniformly  
2                distributed transfer material further comprises:  
3                a plurality of substantially similar geometric objects distributed in a grid  
4                pattern.
- 1        23. The system of claim 22, wherein at least one of a height, a shape, and a  
2                spacing of a plurality of substantially similar geometric objects is selected  
3                based on a package stress associated with the die.
- 1        24. The system of claim 17, further comprising:  
2                a heat dissipating element coupled to the unitary, substantially uniformly  
3                distributed transfer material.
- 1        25. A method, comprising:  
2                forming a unitary, substantially uniformly distributed transfer material as a  
3                mesh; and  
4                coupling a carrier material to the unitary, substantially uniformly distributed  
5                transfer material.
- 1        26. The method of claim 25, wherein forming the unitary, substantially  
2                uniformly distributed transfer material further comprises:  
3                impressing at least one patterned roller against a sheet of solderable material.
- 1        27. The method of claim 25, wherein coupling the carrier material to the unitary,  
2                substantially uniformly distributed transfer material further comprises:  
3                curing the carrier material.

1       28. The method of claim 25, further comprising:  
2             placing the unitary, substantially uniformly distributed transfer material and  
3       the carrier material between a die and a heat dissipating element.

1       29. The method of claim 25, further comprising:  
2             heating the unitary, substantially uniformly distributed transfer material so as  
3       to break a selected number of connecting elements coupling a plurality of  
4       geometric objects included in the unitary, substantially uniformly distributed  
5       transfer material.

1       30. An apparatus, comprising:  
2             an array of solderable elements coupled to each other by a plurality of  
3       solderable connecting elements; and  
4             a carrier material coupled to the array of solderable elements.

1       31. The apparatus of claim 30, wherein the array of solderable elements is at  
2       least partially embedded in the carrier material.

1       32. The apparatus of claim 30, wherein an average volume of each one of the  
2       plurality of solderable connecting elements is less than about one-half of a  
3       volume of an average size of each one of the array of solderable elements.

1       33. A machine, comprising:  
2             a transport element; and  
3             a pair of rollers, at least one of which is capable of being coupled to the  
4       transport element, and at least one of which comprises a pattern to form a  
5       corresponding pattern in a solderable material, the pattern comprising an array  
6       of elements arranged in a substantially repetitive manner.

1        34. The machine of claim 33, wherein selected elements included in the array of  
2        elements are interconnected by a plurality of connecting elements.

1        35. The machine of claim 33, wherein the array of elements arranged in a  
2        substantially repetitive manner includes a plurality of substantially similar  
3        geometric objects distributed on a grid pattern .